Royal Meteorological Society, May 17.—Major H. G. Lyons, president, in the chair.—L. C. W. **Bonacina**: The readjustment of pressure differences: two species of atmospheric circulation and their connection. The paper dealt with a dynamical connection between two essentially distinct types of atmospheric circulation, familiarly exemplified in cyclonic gales on one hand, and in thunderstorms on the other.

Dublin.

Royal Dublin Society, April 18.—Prof. Hugh Ryan in the chair.—Prof. G. T. **Morgan**: Utilisation of nitre cake. Among many sources of economic waste occasioned by the war, one of the most extensive is the loss of sulphuric acid and alkali involved in the throwing away of enormous quantities of nitre cake (crude sodium hydrogen sulphate), the by-product of the manufacture of nitric acid from Chili saltpetre. Many proposals have been made for the profitable disposal of this waste product, some of which have been put into practice. In experiments carried out by the author in the Royal College of Science for Ireland this nitre cake was converted into glass or into an insoluble frit suitable for making glasses or glazes. Nitre itself is difficult to transport or to store because of its highly corrosive nature. When fused with sand it is converted into an insoluble, innocuous frit. Preferably it can be fused with sand and limestone, when soda-lime glass is produced, and more than two-thirds of the contained sulphur can be recovered as sulphuric acid and free sulphur. Nitre cake can be used in making soda-lead glass, which, when tinted with coloured oxides, is suitable for ornamental glass. Nitre cake should certainly not be dumped into the sea, as at present practised, without the attempt being made to utilise its contained soda and sulphur in a profitable manner. The experiments were made largely on materials obtained in Ireland, namely, nitric cake from Arklow, sand from County Donegal, Skerries limestone, and lead from Ballycorus.

Paris.

Academy of Sciences, May 8.—M. Camille Jordan in the chair.—G. **Humbert**: Certain principal circle groups connected with the quadratic forms of Hermite.—G. **Lemoine**: The catalysis of hydrogen peroxide in heterogeneous medium. Third part: Experiments with oxides. The catalytic effect of ferric oxide varied greatly with the physical condition of the oxide. Data are given for experiments with alumina, ceria, silica (in two forms), and thoria. The possibility of the formation of peroxides with the insoluble oxides is discussed.—H. **Le Chatelier** and F. **Bogitch**: The estimation of carbon by the Eggertz method. The experiments vary from the usual method of solution in that the nitric acid is always kept at its boiling point. Each of the factors—concentration of acid, speed of attack, exposure to light, comparison temperature, turbidity of the liquid, duration of heating, volume of the acid liquid, and purity of the acid—has been studied separately with respect to its effect on the colour produced.—W. **Sierpinski**: The theory of ensembles: a general property of ensembles of points.—M. **Etienne**: The working of the electrolytic detector.—G. **Lecointre**: Some results of a geological expedition in the Gharb (western Morocco) in 1914.—P. **Lecène** and A. **Frouin**: New researches showing the reality of latent microbism in cicatrised shot wounds. Twenty-four cases of wounded were examined for the presence of organisms, capable of cultivation, at the surface of projectiles enclosed in the tissues. In all of these the wounds were perfectly cicatrised, and after several months there was no trace of inflammation. In three cases the projectile gave a sterile culture; in seventeen various micro-organisms, including staphylococci, streptococci, and bacilli, were obtained from the bullet. In four cases the projectile and the fibrous envelope were removed together, like a small tumour. The projectiles themselves proved to be sterile, but the internal wall of the fibrous clot gave both cocci and bacilli on cultivation. The bearing of these results on the surgical treatment of projectile wounds is discussed.

BOOKS RECEIVED.

Department of Commerce. U.S. Coast and Geodetic Survey. Serial No. 19: Results of Observations made at the U.S. Coast and Geodetic Survey Magnetic Observatory at Cheltenham, Maryland, 1913 and 1914. By D. L. Hazard. Pp. 98. (Washington: Government Printing Office.)

The Stars as Guides for Night Marching in North Latitude 50°. By E. W. Maunder. Pp. 72. (London: C. H. Kelly.) 2*s*. net.

The Respiratory Exchange of Animals and Man. By Dr. A. Krogh. Pp. viii+173. (London: Longmans and Co.) 6*s*. net.

Plants in Health and Disease. By Prof. F. E. Weiss, Dr. A. D. Imms, and W. Robinson. Pp. viii+143. (Manchester: The University Press; London: Longmans and Co.) 1*s*. 6*d*. net.

Agriculture after the War. By A. D. Hall. Pp. vii+137. (London: J. Murray.) 3*s*. 6*d*. net.

Tuberculosis and the Working Man. By P. C. Varrier-Jones. Pp. 47. (Cambridge: W. Heffer and Sons, Ltd.) 6*d*. net.

Board of Agriculture and Fisheries. Agricultural Statistics, 1915. Vol. l., part 1. Acreage and Live Stock Returns of England and Wales. Pp. 75. (London: H.M.S.O.; Wyman and Sons.) [Cd. 8240.] 4*d*.

Department of Commerce. Circular of the Bureau of Standards, No. 58. Invar and Related Nickel Steels. Pp. 68. Technologic Papers of the Bureau of Standards. No. 71. Effect of Certain Pigments on Linseed Oil. Pp. 16. By E. W. Broughton. Scientific Papers of the Bureau of Standards, No. 273. General Design of Critically Damped Galvanometers. By F. Wenner. (Washington: Government Printing Office.)

The Effects of Radio-active Ores and Residues on Plant Life. Bulletin No. 7. A Report of the Second Series of Experiments carried out at Reading, 1915. Pp. 20. (Reading: Sutton and Sons.) 2*s*. 6*d*. net.

University of Hongkong. Calendar, 1915–16. Pp. 124. (Hongkong.)

Annuaire general de Madagascar et Dependances. (Modifications à l'Annuaire, 1914.) Pp. 227. (Tananarive.)

Department of Agriculture and Technical Instruction for Ireland. Programme of the Irish Training School of Domestic Economy. Session 1916–17. Pp. 21. (Dublin.)

The Brooklyn Institute of Arts and Sciences. Brooklyn Museum Science Bulletin, vol. iii., No. 1. Long Island Fauna. iv., The Sharks. By J. T. Nichols and R. C. Murphy. (Brooklyn, N.Y.)

Annals of Tropical Medicine and Parasitology. Vol. x., No. 1. April 29. Pp. 164. (Liverpool: University Press.) 7*s*. 6*d*. net.

©1916 Nature Publishing Group

The Journal of the Royal Agricultural Society of England. Vol. lxxvi. Pp. 8+364. (London: John Murray.) 10*s.*

The Microscopy of Vegetable Foods. By Dr. A. L. Winton, Prof. J. Moeller, and Dr. K. B. Winton. Second edition. Pp. xiv+701. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 27*s.* 6*d.* net.

Sewerage: The Designing, Construction, and Maintenance of Sewerage Systems. By A. P. Folwell. Seventh edition. Pp. x+540. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 12*s.* 6*d.* net.

The Journal of the South African Ornithologists' Union. Vol. xi., No. 1. December, 1915. Pp. 118. (Pretoria; London: Witherby and Co.) 7*s.*

The Nestorian Monument in China. By Prof. P. Y. Saeki. Pp. x+342. (London: S.P.C.K.) 10*s.* 6*d.* net.

Text-Book of Mechanics. By Prof. L. A. Martin, jun. Vol. vi., Thermodynamics. Pp. xviii+313. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 7*s.* 6*d.* net.

Geodetic Surveying. By Prof. E. R. Cary. Pp. ix+279. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 10*s.* 6*d.* net.

Interpolated Six-place Tables of the Logarithms of Numbers and the Natural and Logarithmic Trigonometric Functions. Edited by H. W. Marsh. Pp. xii+155. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 5*s.* 6*d.* net.

The Thermodynamic Properties of Ammonia. By F. G. Keyes and R. B. Brownlee. Pp. v+73. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 4*s.* 6*d.* net.

The Universal Mind and the Great War. By E. Drake. Pp. vi+100. (London: C. W. Daniel, Ltd.) 2*s.* 6*d.* net.

Methods in Practical Petrology. By H. B. Milner and G. M. Part. Pp. vii+68. (Cambridge: W. Heffer and Sons, Ltd.) 2*s.* 6*d.* net.

Record of a Prehistoric Industry in Tabular Flint at Brambridge and Highfield, near Southampton. By R. E. Nicholas. Pp. 92. (Southampton: Toogood and Sons.)

Alfred Russel Wallace: Letters and Reminiscences. By J. Marchant. Vol. i., pp. xi+320. Vol. ii., pp. vi+291. (London: Cassell and Co., Ltd.) 25*s.* net.

The Design of Aeroplanes. By A. W. Judge. Pp. viii+212. (London: Whittaker and Co.) 9*s.* net.

The Small Grains. By M. A. Carleton. Pp. xxxii+699. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd.) 7*s.* 6*d.* net.

Steering by the Stars: for Night-flying, Night-marching, and Night Boat-work between Latitudes 40° N. and 60° N. By Dr. J. D. White. Pp. 32. (London: J. D. Potter.) 1*s.*

Tunbridge Wells and Neighbourhood: A Chronicle of the Town from 1608 to 1915. By H. R. Knipe. Pp. 207. (Tunbridge Wells: Pelton.)

DIARY OF SOCIETIES.

THURSDAY, May 25.

Royal Society, at 4.30.—Bakerian Lecture: X-Rays and the Theory of Radiation: Prof. C. G. Barkla.

Royal Institution, at 3.—The Beginnings of the Orchestra and its Instrumental Combinations: Sir Alexander Mackenzie.

Optical Society, at 8.—Sands used in Glass-making, with Especial Reference to Optical Glass: Dr. P. G. H. Boswell.

FRIDAY, May 26.

Royal Institution, at 5.30.—X-Rays: Prof. C. G. Barkla.

Physical Society, at 5.—The Correction of Chromatic Aberrations when the External Media are Dispersive: T. Smith.—Note on the Use of the Auto-collimating Telescope in the Measurement of Angles: J. Guild.—The Viscosity of Colloidal Solutions: E. Hatschek.

SATURDAY, May 27.

Royal Institution, at 3.—The Finance of the Great War: Prof. H. S. Foxwell.

TUESDAY, May 30.

Royal Institution, at 3.—Optical Research and Chemical Progress: Dr. T. M. Lowry.

THURSDAY, June 1.

Royal Society, at 4.30.—*Probable Papers:* The Scattering of Plane Electric Waves by Spheres: Dr. T. J. I'a Bromwich.—Numerical Results of the Theory of the Diffraction of a Plane Electromagnetic Wave by a perfectly conducting Sphere: J. Proudman, A. T. Doodson, and G. Kennedy.—Motion of Solids in Fluids when the Flow is not Irrotational: G. I. Taylor.

Royal Institution, at 3.—Chamber Music and its Revival in England: Sir Alexander Mackenzie.

Royal Society of Arts, at 4.30.—The Work of the Imperial Institute for India: Prof. W. R. Dunstan.

FRIDAY, June 2.

Royal Institution, at 5.30.—La France dans l'Histoire comme Champion du Droit: Lieut. P. H. Loyson.

Geologists Association, at 7.—The Petrology of the North Sea Drift and Suffolk Brick-earths: Dr. P. G. H. Boswell.—Notes on Erosion Phenomena in Egypt: Mary S. Johnston.

SATURDAY, June 3.

Royal Institution, at 3.—Folk-lore in the Old Testament: Sir James G. Frazer.

CONTENTS.

PAGE
Chemistry for Students and General Readers. By T. M. L. . . . 257
Wireless Transmission of Photographs. By E. E. F. 258
Electrical Engineering Manuals. By D. R. . . . 258
An American Gardening Book. By J. B. F. . . . 259
Our Bookshelf . . . 259
Letters to the Editor:—
  "Summer Time" and Meteorology.—**Major E. Gold; Major H. G. Lyons, F.R.S** . . . 260
  Geologists and Special Constables.—**Prof. T. G. Bonney, F.R.S.** . . . 260
  National Food Supply and Nutritional Value.—**Prof. W. H. Thompson; "The Writer of the Article"** . . . 261
  The Lower Greensand Flora.—**Dr. Marie C. Stopes; A. C. S.** . . . 261
  Meteorological Conditions of a Blizzard.—**Arthur E. Bostwick** . . . 261
The Routledge Expedition to Easter Island. By E. N. Fallaize . . . 261
The British Science Guild . . . 263
Notes . . . 264
Our Astronomical Column:—
  Comet or Nebulous Minor Planet? . . . 268
  The Pole Effect in the Calcium Arc . . . 268
  The Rotation of Nebulæ . . . 268
National Defence and Development in the United States . . . 268
The Peat Industries of Wisconsin . . . 269
The Oxidation of Drying-oils. By T. M. L. . . . 269
Industrial Research in the United States. By A. P. M. Fleming . . . 270
University and Educational Intelligence . . . 272
Societies and Academies . . . 273
Books Received . . . 275
Diary of Societies . . . 276

Editorial and Publishing Offices:
MACMILLAN & CO., Ltd.,
ST. MARTIN'S STREET, LONDON, W.C.

Advertisements and business letters to be addressed to the Publishers.

Editorial Communications to the Editor.
Telegraphic Address: Phusis, London.
Telephone Number: Gerrard 8830.

©1916 Nature Publishing Group